

Audit of Road Operations

Division of Inspector General Neil Kelly, Clerk of the Circuit and County Courts Audit Report

Bob Melton, CPA, CIA, CFE, CIG Inspector General

Audit Conducted by: Cindy McLaughlin, CPA, CIA, CIGA Senior Inspector General Auditor

> Report No. BCC-134 July 31, 2015



Division of Inspector General Phone (352) 253-1644 Fax (352) 253-1645

Post Office Box 7800 Tavares, Florida 32778-7800

July 31, 2015

Board of County Commissioners

We have conducted our audit of the Road Operations Division of the Board of County Commissioners' Public Works Department, as scheduled per the Clerk's Annual Inspector General Audit Plan.

We appreciate the cooperation and assistance provided by the Road Operations Division during the course of our audit.

Respectfully submitted,

Bob Melton

Bob Melton Inspector General

cc: Honorable Neil Kelly, Clerk of Circuit & County Courts
David Heath, County Manager
Jim Stivender, Public Works Department Director

TABLE OF CONTENTS

EΣ	ECUTIVE SUMMARY
IN	TRODUCTION
	Scope and Methodology
	Overall Conclusion3
	Background3
OI	PPORTUNITIES FOR IMPROVEMENT
1.	Evaluate Funding For Road Resurfacing And Maintenance
2.	Road Ratings Should Be Supported With Additional Notations
3.	Contracts Competitively Bid For Items Could Result In Cost Savings To County
4.	Security of Maintenance Facilities Should Be Enhanced
5.	Complaint Reporting System Could Be More Obvious And User-Friendly14
6.	Procedures Should Be In Writing, Decisions Documented, and Staff Trained When
	Determining In-house Versus Outsourced Projects
7.	Work Orders Should Use Current Rates, Include All Costs, and Be Inspected and Signed Off.18

EXECUTIVE SUMMARY

We conducted an audit of the Road Operations Division of the Board of County Commissioners' Public Works Department, as scheduled per the Clerk's Annual Inspector General Audit Plan. The Lake County Road Operations Division of the Public Works Department is responsible for the maintenance of all Lake County roadways, rights-of-way, bridges, and stormwater systems. There are approximately 1,392 miles of county-maintained roads and 27 bridges. The length in miles of Lake County roads can be compared to the straight-line distance from downtown Tavares to Watertown, South Dakota or Island Falls, Maine.

Funding for Lake County's road system should be evaluated. If funding is continued at the current levels, at least \$86 million would have to be spent to bring the roads to optimal levels in ten years. This \$86 million represents the amount of costs that could be avoided if the needed funding for annual maintenance is provided each year from now forward. Currently, the annual funding to maintain County roads is approximately \$2 million per year. At this rate, in ten years, an additional \$127 million will be needed to bring all roads to a level considered marginal. However, if the County spends about \$5.8 million annually, at the end of ten years, no additional funding would be needed to bring all roads to a marginal level. This would save at least \$86 million for the ten year period.

Security of maintenance facilities should be enhanced. During site visits to the three Maintenance Area facilities, one facility was unattended and not secured. In that instance, the facility was unattended for at least 15 minutes. Although the office doors were locked, the bay doors at the facility were open, providing access to tools, supplies, and equipment.

The complaint reporting system could be more obvious and user-friendly. Complaints to the Road Operations Division were made by phone, email, and through the Citizen Action Request Line (CARL) system. The system is not as user-friendly as it should be to enable citizens to quickly report road problems that could put lives at risk.

We also made other recommendations for improvement regarding operations. Our report contains a total of 11 recommendations for improvement. Management concurred with all of the recommendations.

INTRODUCTION

Scope and Methodology

We conducted an audit of the Road Operations Division of the Board of County Commissioners' Public Works Department, as scheduled per the Clerk's Annual Inspector General Audit Plan. Our audit objectives were:

- 1. To determine whether the division is adequately funded.
- 2. To determine whether the division is in compliance with the appropriate laws and regulations.
- 3. To determine whether procedures are adequate and the projects follow those procedures.

To determine whether the division is adequately funded, we interviewed management and reviewed the calculation of funding required to bring maintenance to the optimal level; we reviewed and verified the calculation of the ongoing annual funding required to maintain optimal levels in the future; we compared the needed funding to the amount that has been provided annually; we reviewed the road inspection report and assigned road ratings; and we compared the documentation to the Pavement Surface Evaluation and Rating system, the method for road pavement condition ratings.

To determine whether the division is in compliance with the appropriate laws and regulations, we reviewed projects for compliance with applicable statutes. We also interviewed staff and reviewed documentation for compliance with laws and regulations.

To determine whether procedures are adequate and the projects follow those procedures, we selected a sample of expenditures during the audit period and tested the sample items for proper support, approval, public purpose, appropriateness, and compliance with the funding source; we reviewed Procurement card transactions for appropriate commodity codes, split purchases, and duplicate payments using data analytics; we reviewed and tabulated purchase volumes by vendor to evaluate the possible need to establish contracts; we reviewed the procedures for time sheets and inspected time sheets from terminated employees; we reviewed staff overtime for the prior three years and analyzed trends for reasonableness; we interviewed staff as to the process for scheduling overtime and evaluated the overtime hours for equity. We selected a sample of road maintenance projects performed by County staff and determined the reason for the project, evaluated the project for reasonableness as to staffing and costs, and determined whether independent inspectors verified the quality of work; we reviewed the physical security of each Maintenance Area location through site visits; we reviewed the procedures for tracking complaints, selected a sample of the complaints, and evaluated the reasonableness of the disposition. We interviewed management regarding the process relating to the decision to perform projects in-house vs. outsourcing; we selected a sample of projects

and verified the assumptions and costs involved in the calculation used as a basis for the decisions. We reviewed the policies for the use of County vehicles and reviewed the take-home assignments and on-call procedure; we reviewed the job descriptions for positions that required a specialized type of license and specific certifications and training; we selected a sample of employees in those positions for review and reviewed the personnel files for documentation of the appropriate current license; and we reviewed the personnel records and made inquiries of staff for the current certificates and most recent dates of training.

Our audit included such tests of records and other auditing procedures, as we considered necessary in the circumstances. The audit period was October 1, 2013 through October 2014. However, transactions, processes, and situations reviewed were not limited by the audit period.

Overall Conclusion

We conclude that funding should be evaluated. We further conclude that the continuance of funding at current levels may directly result in the need for significant outlay of funds over the long term. We conclude that the division is in compliance with the appropriate laws and regulations. Except as noted in this report, we conclude that the procedures are adequate. Opportunities for Improvement are included in this report.

Background

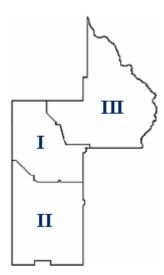
The Lake County Road Operations Division of the Public Works Department is responsible for the maintenance of all Lake County roadways, rights-of-way, bridges, and stormwater systems. There are approximately 1,392 miles of county-maintained roads and 27 bridges. The length in miles of Lake County roads can be compared to the straight-line distance from downtown Tavares to Watertown, South Dakota or Island Falls, Maine. The types of roads are shown in the following chart.

Type of Road	Number of Miles
Asphalt	1,244.77
Clay	119.60
Double Surface Treated	25.29
Concrete	1.86
Brick	0.15
Total	1,391.67

The Division consists of three Maintenance Areas and a Special Projects Section. Road crews are assigned to each Maintenance Area, which are geographically distinct. These crews perform scheduled work, such as clay road grading or mowing, as well as respond to requests for service on items such as pothole repair, tree trimming, etc.

Road Operations Division: The County is divided into three maintenance areas.

- 1. Maintenance Area I is headquartered in Leesburg and is responsible for County-maintained roadways located west of the Haynes Creek Bridge and the Beauclair Canal and south to the Florida Turnpike.
- 2. Maintenance Area II is headquartered in Minneola and is responsible for County-maintained roadways located south of the Florida Turnpike.
- 3. Maintenance Area III is headquartered in Umatilla and is responsible for County-maintained roadways located east of the Haynes Creek Bridge and the Beauclair Canal, up to Astor.



The Special Projects Section performs non-routine road maintenance activities such as large pavement repairs or double surface treatment projects that allow regularly scheduled Maintenance Area activities to continue without interruption. Through administrative support and management, various contracts are administered with private vendors to provide routine maintenance items such as contracted road repair, micro-surfacing and resurfacing, sidewalk and right-of-way mowing, guardrail repair, pipe cleaning, tree removal, and tree trimming, as well as non-routine items such as pipe lining or shoulder rehabilitation. An annual Five-Year Transportation Construction Program is developed in this Division.

The Road Operations Division conducts an annual inventory and inspection of the condition of the roads in the County maintenance system. The roads are rated using the Pavement Surface Evaluation and Rating (PASER) Manual for Asphalt Roads from the Transportation Information Center at the University of Wisconsin-Madison. The road ratings are used in determining which roads are of critical concern and in urgent need of repair.

The Road Operations Division strives to extend the life of paved roads through maintenance and pavement preservation techniques, such as resurfacing and micro-surfacing. Resurfacing is when the top layer of asphalt is removed and replaced with a new layer of asphalt. Micro-surfacing is a protective seal coat which extends the life of the pavement. The Road Operations Division also strives to keep roadway shoulders safe for traveling motorists by rehabilitating them to eliminate drop-offs and to allow positive drainage. The Road Operations Division strives to keep Lake County aesthetically pleasing and traveling motorists safe by mowing roadsides and removing right-of-way debris.

The Division is often complaint driven, meaning that projects are undertaken when a complaint is received from the public or staff. Complaints can be made in person, by phone, by email, or online through the County's website. Complainants may submit their information anonymously by phone or online.





Complaints are received about potholes, fallen trees, low-hanging limbs, the road edge crumbling and breaking off, etc.

The Division is funded by the County Transportation Trust Fund which includes revenues from the 6 cents of Local Option Fuel Tax, the 2 cents of Constitutional Fuel Tax, the Ninth Cent Fuel Tax, 1 cent of County Fuel Tax, and Special Assessments. The Division can also receive funding from the Stormwater, Parks, and Roads Municipal Service Taxing Unit (MSTU) ad valorem millage; however, the Division has not received funding from the MSTU since 2010.

The adopted expenditures for FY 2014 were \$8,205,380. Additional adjustments to the budget amounts of an encumbrance carryover of \$1,506 and an unanticipated Homeowner's Association (HOA) maintenance request of \$78,256, or a combined \$79,762, resulted in budgeted expenditures of \$8,285,142.

2014 Road Operations Division Budget		
Personal Services	\$3,541,186	
Operating Expenditures:		
Professional Services	\$30,000	
Contractual Services		
(including adjustment of \$1,506)	\$159,738	
Travel and Per Diem	\$2,000	
Communications	\$35,990	
Freight and Postage	\$1,000	
Utility Services	\$44,000	
Rentals and Leases	\$375,674	
Insurance	\$56,618	
Repair and Maintenance	\$1,327,473	
Road Repair and Maintenance		
(including adjustment of \$78,256)	\$1,403,256	

Printing and Binding	\$500
Reprographic Charges	\$6,800
Other Current Charges and Obligations	\$5,700
Office Supplies	\$13,583
Operating Supplies	\$51,880
Motor Fuel	\$614,000
Road Materials and Supplies	\$597,000
Books, Publications, and Dues	\$1,000
Training	\$8,000
Software Maintenance	\$9,744
Total Operating Expenditures	\$4,743,956
Total Expenditures	\$8,285,142
Capital Outlay	\$150,182
Grand Total	\$8,435,324

OPPORTUNITIES FOR IMPROVEMENT

Our audit disclosed certain policies, procedures and practices that could be improved. Our audit was neither designed nor intended to be a detailed study of every relevant system, procedure or transaction. Accordingly, the Opportunities for Improvement presented in this report may not be all-inclusive of areas where improvement may be needed.

1. Evaluate Funding For Road Resurfacing And Maintenance.

Funding for Lake County's road system should be evaluated. If funding is continued at the current levels, at least \$86 million would have to be spent to bring the roads to optimal levels in ten years. This \$86 million represents the amount of costs that could be avoided if the needed funding for annual maintenance is provided each year from now forward. A detailed discussion is presented below.

As of August 12, 2014, unfunded road resurfacing needs of \$22,555,294 existed. These needs related to only the roads rated "5" in the 2013 Road Inventory and represented the costs remaining after the funding was provided for resurfacing for the year, an amount typically between \$2,000,000 and \$2,300,000 each year. Even if no deterioration of any of these roads occurred in the future, it would take 10 years at the current level of funding to resurface just the roads rated "5." However, further deterioration will occur because of environmental factors due to weathering and aging, and structural factors due to traffic loading conditions. Thus, with current funding levels, Lake County roads will continue to deteriorate, which will result in higher costs to restore them to optimal levels. In general, the worse the condition of the road, the more costly it is to restore it to optimal condition.

Under the Pavement Surface Evaluation and Rating (PASER) manual, roads that are rated a "5" are considered to be in fair condition with surface aging. These roads would benefit from a thin non-structural overlay. However, further decline in the condition of the road would eventually result in a need for a structural overlay or reconstruction, which would increase the cost significantly.

As the table below shows, Lake County roads rated "6" are considered marginal. The ratings then decrease to "1" and "2" which represent failed roads that require total reconstruction at significant costs. According to management, 45% of county maintained roads are in the area of critical concern (i.e., "6" pavement rating and lower). As time passes, deterioration continues, resulting in a higher cost to maintain and repair the roads.

Lake County uses the Pavement Surface Evaluation & Rating (PASER) System, formulated by the University of Wisconsin Transportation Information Center, to rate the surface condition of asphalt pavement.

Surface Rating	Description	General Condition / Treatment Measures	
10 & 9	Excellent	New construction or recent overlay. Like new.	
8	Very Good	Recently micro-sealed or new cold mix. Little or no maintenance required.	
7	Good	First signs of aging. Sound structural condition. Extend life with micro-sealing.	
6	Marginal	Shows signs of aging. Sound structural condition. Extend life with micro-sealing.	
		Surface aging and first signs of need for strengthening. Needs micro-sealing or thin	
5 & 4*	Fair	non-structural overlay. Would benefit from a structural overlay (2" or more).	
3	Poor	Needs patching and repair prior to major overlay.	
2 & 1	Failed	Severe deterioration. Failed. Needs total reconstruction.	

^{*} This (4) is the rating level that triggers the road's consideration for the Countywide resurfacing program.

(Excerpted from State of the County Roads 2012, Lake County Public Works Department, Road Operations Division)

Examples of roads in this rating area of critical concern (i.e., "6" pavement rating and lower) are shown below with their rating as of March 2014.



English Road, Leesburg Rating: 5

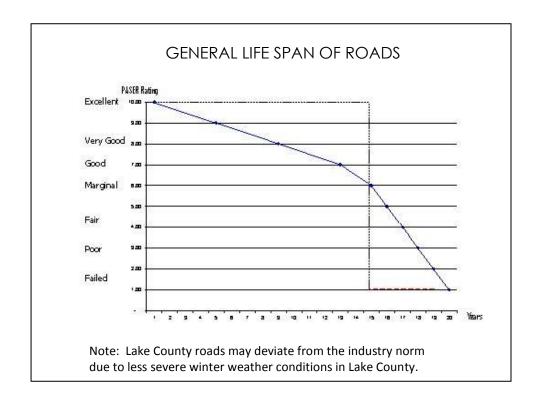


Independence Boulevard, Groveland Rating: 4

During the 10 years that the roads rated "5" consume all the typical annual funding, the roads rated "6" will now be 25 years old with no significant preventative maintenance. As a result, the expectation is that these roads will decline to a condition where they will have to be rebuilt.

The following chart depicts the general life span of roads. The chart demonstrates that while it takes 15 years for a road to reach a rating of "6," once it reaches that rating, it can only take 5

more years until the road fails. This acceleration of aging accentuates the urgency of timely road resurfacing and the need for a proactive, rather than reactive, strategy.



The current program and options to maintain the county roads at an optimal level over a 100-year cycle are described and shown in the table below:

- Current Program: \$2,000,000 to \$2,300,000 annual funding
- Option 1: \$3,587,641 annual funding;
 Micro-surfacing performed when the roads are at a rating of "6" and the roads restored to a rating of "8"
- Option 2: \$5,831,306 annual funding;
 Overlaying performed when the roads are at a rating of "4" and the roads restored to a rating of "9"

The options above assume that all asphalt roads in the inventory are evenly distributed over the life cycle curve.

	Current Program	Option 1	Option 2
Annual Funding	\$2,000,000	\$3,587,641	\$5,831,306
Total Funding over 10 years	\$20,000,000	\$35,876,410	\$58,313,060
Additional Costs in 10 th year *	\$127,682,142	\$0	\$0
One-time Cost to Bring Lower- rated Roads to "6" Rating **		\$25,737,961	
Total Costs ***	\$147,682,142	\$61,614,371	\$58,313,060
Savings from Current Funding	\$0	\$86,067,771	\$89,369,082

^{*} The \$127,682,142 additional costs under the current program in the 10th year are the estimated total costs in ten years to rebuild the 17.88% of inventory rated "6" that deteriorated further as a result of all the annual funding being used on the roads rated "4" and "5."

Several funding sources (e.g., MSTU, County Transportation Trust Fund (Fuel Tax), and Renewal Sales Tax) have been used over the years for micro-surfacing and resurfacing. However, the MSTU has not been used for road projects since 2010 as these funds have been allocated to other county projects.

Two of Lake County government's stated goals are:

- 1) Lake County Offers a Quality, Reliable Transportation Network in a Multi-modal System, and
- 2) Lake County Preserves Environmental Resources.

The Road Operations Division strives to meet these goals by extending the life of paved roads through maintenance and pavement preservation techniques, such as resurfacing and microsurfacing. However, to do so in a proactive rather than a reactive manner, additional annual funding is necessary.

We Recommend management evaluate options for additional funding.

Management Response: Management concurs with the recommendation.

2. Road Ratings Should Be Supported With Additional Notations.

The Road Operations Division conducts an annual inventory and inspection of the condition of the roads in the County maintenance system. Inventory and Inspection Reports are provided to the

^{**} The one-time cost in Option 1 is based on the roads rated "4" and "5" in the 2013 Road Inventory as presented by the Road Operations Division to the Board of County Commissioners on August 12, 2014.

^{***} Option 1 Total Costs could be funded at \$6,161,437 annually for 10 years.

staff in each Maintenance Area for use. The staff then takes measurements and completes the road inventory inspection information. The inspection reports have spaces for the new rating assigned, the date of the inspection, and the inspector's initials to be handwritten, but do not have space for additional notes, comments, or reasons for the rating. No notes as to the specific types of distress or the amount of distress observed were included in the inspection report.

Additionally, the report contains pre-filled blocks for "Y(es)" or "N(o)" as to whether the road segment has a sidewalk ["L(eft)" or "R(ight)"], gutter, or guardrail. However, no space is provided on the report for review and notations of these specific conditions.

The Pavement Surface Evaluation and Rating system lists common asphalt pavement surface distress.

Surface Distress	Description
Raveling	Progressive loss of pavement material from the surface downward
Flushing	Excess asphalt on the surface
	Wearing off of sharp edges of aggregates resulting in a smooth
Polishing	slippery surface
Rutting	Displacement, creating channels in wheelpaths
	Shoving or rippling due to material displaced crossways to the
Distortion	direction of traffic
Transverse	Cracks at right angles to the center line, often regularly spaced, due
cracks	to temperature changes and hardening of the asphalt with aging
	Cracks in overlays that reflect the crack pattern in the pavement
Reflection cracks	underneath
	Crescent or rounded cracks in the direction of traffic, caused by
Slippage cracks	slippage between an overlay and underlying pavement
Longitudinal	Cracks running in the direction of traffic, caused by inadequate
cracks	bonding, fatigue failure, or insufficient shoulder support
	Interconnected cracks forming large blocks caused by shrinking and
Block cracks	hardening of the asphalt over time
	Interconnected cracks forming small pieces ranging in size from
Alligator cracks	about 1" to 6"
Patches and	Holes and loss of pavement material caused by traffic loading,
Potholes	fatigue, and inadequate strength

These types of distress are considered in determining the rating. The PASER Manual states that "having a written record and objective information also improves your credibility with the public." The Manual adds that "small or isolated conditions should not influence the rating. It is useful to note these special conditions on the inventory form so this information can be used in planning specific improvement projects." The Manual states that "an inspection also encourages a review of specific conditions important in roadway maintenance, such as drainage, adequate strength, and safety."

During the annual inspection, written information is collected in a "Future Repair Log." This log describes needed repairs on the roads such as "sweeping," "edges," "potholes," "tree trimming," and "asphalt patching." Although these notations describe some conditions of the road, the log does not describe the specific types of surface distress or the amount observed that determined the rating of the road. As a result, the lack of written, objective information allows the sufficiency of the rating to be questioned.

In addition to the manual for rating asphalt roads, the Transportation Information Center at the University of Wisconsin-Madison also publishes a PASER manual for rating concrete roads. Though Lake County does not have a significant amount (i.e., 1.86 miles) of concrete roads, the assigned ratings varied in the inventory report. One road segment with a surface type of concrete had a 2013 rating of "Gd" and a 2014 rating of "NA." The PASER ratings for concrete roads range from 1 to 10, similar to those for asphalt surfaces.

We Recommend management:

- A. Include space in the road inspection report for written, objective information such as additional notes, comments, and reasons for the surface rating. This information could include types of distress, special conditions, and an evaluation of specific conditions such as a sidewalk, gutter, and guardrail.
- B. Utilize the pavement rating manual for concrete roads to establish consistency with those ratings.

Management Response:

- A. Management concurs with the recommendation.
- B. Management concurs with the recommendation. A consistent rating of concrete roads will be established using the pavement rating manual as a guide.

3. Contracts Competitively Bid For Items Could Result In Cost Savings To County.

Savings should be maximized through competitively bid contracts. During the review, purchases showed a possible need for competitively bid contracts. Purchases were made from the following vendors in the amounts shown over a two year period.

Vendor	Amount
Grand Rental Station	\$5,185.23
Shoe Biz	\$11,434.99
Tractor Supply (3 locations)	\$6,585.13
Umatilla Hardware	\$8,717.75
Umatilla Mower Sales	\$9,487.76

Additionally, purchases of parts were made at various automotive and other stores for the county vehicles and equipment. Included were such items as batteries, hydraulic hoses, etc. The total of the purchases during the two year period reviewed was over \$11,000. If these purchases had been made through Fleet, a cost savings may have been obtained.

It should be noted that the Division is following procurement policies; however, these cost saving opportunities may exist with the purchases.

We Recommend management:

- A. Work with Procurement to consider the feasibility of competitively bidding contracts for rental equipment, safety shoes, and maintenance supplies.
- B. Coordinate with Fleet Management for vehicle and equipment supply purchases.

Management Response:

- A. Management concurs with the recommendation.
- B. Management concurs with the recommendation.

4. Security of Maintenance Facilities Should Be Enhanced.

During site visits to the three Maintenance Area facilities, one facility was unattended and not secured. In that instance, the facility was unattended for at least 15 minutes. Although the office doors were locked, the bay doors at the facility were open, providing access to tools, supplies, and equipment.



East supply bay open while unattended.



Some of the hand tools in the supply bay.

County property and assets are put at risk of loss or abuse when facilities are not secured. The county facilities should be secured to prevent theft and abuse when unattended.

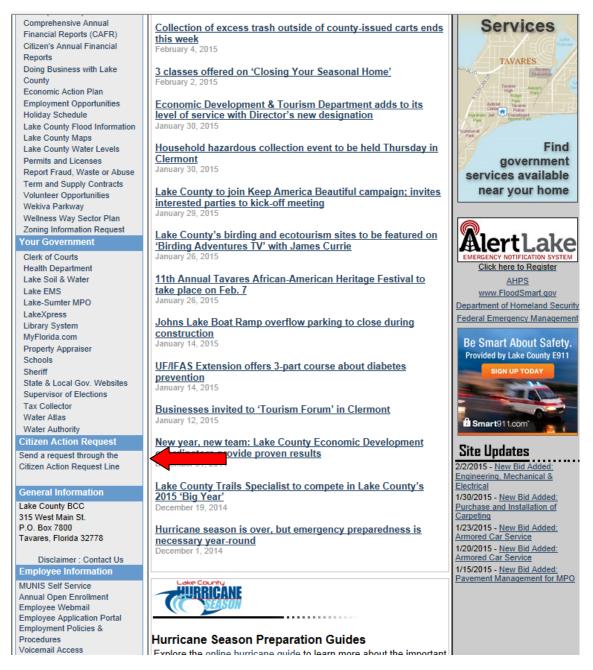
We Recommend management ensure each Maintenance Area Facility is secured when it will be unattended for any period of time, however brief.

Management Response: Management concurs with the recommendation.

5. Complaint Reporting System Could Be More Obvious And User-Friendly.

Complaints to the Road Operations Division were made by phone, email, and through the Citizen Action Request Line (CARL) system. A link to the CARL system is available from the County's main web page. However, the link to the CARL system is not as obvious, or the system itself as user-friendly, as it should be to enable citizens to quickly report road problems that could put lives at risk.

On the left side of the main County webpage, the Citizen Action Request heading appears with a description of "Send a request through the Citizen Action Request Line." However, no further description exists of what constitutes a citizen action request.



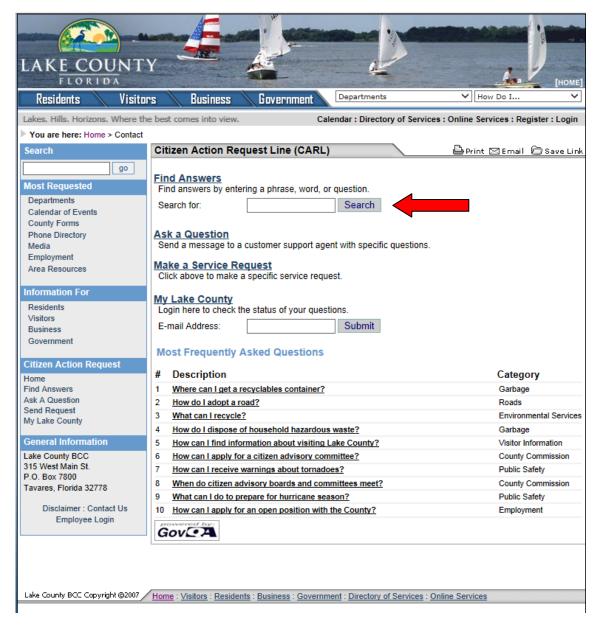
A review of the county's main webpage shows a drop-down box that states "How Do I...." Although there are several selections listed (e.g. "Access building permit," "Contact County BCC," and "Pay child support"), there is no option such as "Report a problem (pothole, missed garbage, etc.)."



An obvious "Contact Us" selection leads to an employee email listing which might have been used by a citizen to email the management of Road Operations directly, without going through the CARL system.



After linking to the Citizen Action Request page, the page lists headings of "Find Answers," "Ask a Question," and "Make a Service Request." A search in "Find Answers" on the terms "road repair," "road maintenance," and "report pothole," listed a link with the description "Road Repair/Maint./Pothole" as the question. After clicking on the link, the page showed an answer of "Thank you. Your request has been forwarded to the Supervisor for investigation. If you have further questions, please call Maintenance Area III at 352-669-2814." This response might prove confusing to a citizen.



The "Ask a Question" link allows the citizen to submit an email and select a category and subcategory, but the sub-categories within the "Roads" category are general, and not related to how to make a complaint or report a problem.

The "Make a Service Request" link does list "Road Repair/Maint./Pothole" with a description of "Report road damage and potholes." However, the term "Service Request" might be confusing as it could be interpreted by citizens as a link to request various types of government utilities (i.e., water, gas, or electric), not to report a problem or complaint.

When navigating the County website, citizens may use the "Departments" drop-down box at the top of the screen to locate the road operations. Upon finding Road Operations under Public Works, the citizen would then see "Contact Road Operations" on the division's web page. Clicking on "Contact Road Operations," the email and phone numbers are listed for the division's employees.

In addition to "Contact Road Operations" on the division's web page, the citizen would also see the "Citizen Action Request" link. However, no further description exists of what constitutes a citizen action request or in what instances this would be used. As a result, the citizen would find it easier to contact an employee directly instead of using the CARL system.

Methods for reporting problems or complaints should be clear and obvious to the citizens. Otherwise, problems or complaints may not be reported timely and place lives at risk.

We Recommend management review the county website and the Citizen Action Request Line (CARL) system and then work with the Communications Department to make reporting a complaint or problem with county roads more obvious for the citizens.

Management Response: Management concurs with the recommendation.

6. Procedures Should Be In Writing, Decisions Documented, and Staff Trained When Determining In-house Versus Outsourced Projects.

The process of the decision of whether to perform a project in-house or outsource is not formalized in procedures; there are no written procedures per management. The calculation of project costs and the resulting decision are not always in writing. Some of the projects reviewed were:

In-house Project	Cost	Outsourced Project	Cost
Swale Restoration	\$53,176	Sod Installation	\$9,320
Swale Restoration	\$10,400	Swale Restoration	\$9,094
Haul Materials	\$33,976	Guardrail Repair	\$6,795
Build Shoulder	\$6,651	Tree Removal	\$4,000
Empire Church Road Overlay	\$78,361	Lakeshore Drive Overlay	\$25,200
Repair Clay Road	\$4,921	Amber Avenue & Sapphire Drive Overlay	\$7,442

An important component of decision-making processes and procedures is to ensure that staff are trained and understand how the outcome is determined.

Lack of written procedures could result in an incorrect decision being made without guidelines to follow. Additionally, a decision could be called into question without sufficient documentation to demonstrate the outcome.

We Recommend management develop written procedures, train staff, and ensure decisions are documented when determining whether a project is performed in-house or outsourced.

Management Response: Management concurs with the recommendation.

7. Work Orders Should Use Current Rates, Include All Costs, and Be Inspected and Signed Off.

A review of a sample of work orders for in-house projects showed the following conditions:

- A. The hourly rates used for the employees do not contain the cost of benefits in the rate; the hourly rates are only the standard straight-time hourly rate. Without a full hourly cost, comparisons to outsourced projects would not be accurate.
- B. Not all of the projects in Cartegraph reviewed included all the material costs. Some work orders listed items that had been used in the projects but showed the cost of \$0. The items in these work orders that had a \$0 cost were sod, pipe, grass seed, concrete rubble, and rip rap. Without the cost of all the materials, the work order information could not be used for cost comparison to other projects.
- C. Although work order requests are typically assigned to the Maintenance Area Supervisor when the request comes in, based on the work orders received from Road Operations, the Maintenance Area Supervisor does not sign off the project that it has received a final inspection, nor does the project have a sign off by any other independent inspector to verify the quality of work. A portion of the projects reviewed had a significant dollar amount associated with them.

The software system, although comprehensive, is not used fully with the work orders. As a result, the work order information would not provide a good cost comparison.

We Recommend management:

- A. Utilize hourly rates in Cartegraph for employees that include the cost of employee benefits in the rate.
- B. Include all the costs of an in-house project in the work order detail in Cartegraph, including the cost of all materials used, or reference the outsourced work order that contains the related cost information.

C. Establish a procedure where the Maintenance Area Supervisor signs off that a project has received a final inspection. Additionally, where projects costing significant dollars, i.e., greater than \$10,000.00, ensure projects are signed off by an independent (internal) inspector to verify the quality of work.

Management Response:

- A. Management concurs with the recommendation.
- B. Management concurs with the recommendation.
- C. Management concurs with the recommendation.